

In the Claims:

- 1 1. A system for remediating a contaminated subterranean
2 body of groundwater, comprising:
3 a supply of concentrated oxygen;
4 a control mechanism for controlling the release of oxygen from
5 said supply of concentrated oxygen;
6 a plurality of injection conduits in communication with said
7 control mechanism and extending below ground through an entry hole, said
8 plurality of injection conduits extending in a non-vertical fashion as they
9 extend below a surface of groundwater; and
10 a plurality of injection sites formed adjacent an end of each of
11 said plurality of injection conduits to release oxygen from said supply of
12 concentrated oxygen into the groundwater.
- 1 2. The system of claim 1, wherein said plurality of injection
2 conduits are positioned in a first bore hole and each have a different length.
- 1 3. The system of claim 1, wherein each of said plurality of
2 injection sites is comprised of an expendable screen coupled to an end of a
3 respective one of said plurality of injection conduits.
- 1 4. The system of claim 1, wherein each of said plurality of
2 injection sites is comprised of one or more holes formed adjacent an end of a
3 respective one of said plurality of injection conduits.

1 5. The system of claim 1, further comprising:
2 a supply of microbials in communication with said plurality of
3 injection conduits to release said microbials into said groundwater through a
4 respective one of a said injection sites.

1 6. The system of claim 1, wherein said control mechanism is
2 interposed between said supply of concentrated oxygen and said plurality of
3 injection conduits, said control mechanism regulating the flow of oxygen to
4 said plurality injection conduits.

1 7. The system of claim 6, wherein said control mechanism
2 includes a plurality of flow meters with each of said plurality of injection
3 conduits being in communication with a separate one of said plurality of flow
4 meters in communication therewith.

1 8. The system of claim 2, wherein said entry hole for said first
2 bore hole is located adjacent said control mechanism and said first bore hole
3 has an exit point located remotely from said entry hole.

1 9. The system of claim 2, further comprising:
2 a plurality of bore holes, with each of said plurality of bore holes
3 having a plurality of injection conduits located therein.

1 10. A method for remediating a contaminated subterranean
2 body of groundwater to destroy or reduce contaminants comprising:

3 determining a location for a plurality of injection sites in the
4 body of groundwater;

5 boring a first hole in ground having an entry point and an exit
6 point located remotely from said entry point;

7 inserting a plurality of injection conduits each having a
8 respective injection site formed thereon into said first bore hole and in
9 communication with the body of groundwater, such that said plurality of
10 injection sites are positioned in said determined location; and

11 delivering substantially pure oxygen to said at least one injection
12 conduit and said plurality of injection sites.

1 11. The method of claim 10, further comprising:

2 regulating the flow of said substantially pure oxygen to said
3 plurality of injection sites, such that the level of oxygen in the soil gas vapor is
4 between a range of approximately 15% and 25%.

1 12. The method of claim 10 further comprising:

2 inserting a plurality of injection conduits each having a different
3 length into said first bored hole.

1 13. The method of claim 10, wherein said substantially pure
2 oxygen is delivered to said plurality of injection conduits and thus said
3 plurality of injection sites from a supply of liquid oxygen.

1 14. The method of claim 10, further comprising:

2 delivering an amount of microbials to said plurality of injection
3 conduits and said plurality of injection sites located thereon and into the body
4 of groundwater to assist in reducing the level of contaminants.

1 15. The method of claim 10, further comprising:
2 forming a plurality of bore holes; and
3 locating a plurality of injection conduits having a respective
4 injection site located at an end thereof into each of said plurality of bore holes.

1 16. The method of claim 10, wherein the step of inserting said
2 plurality of injection conduits includes pulling said injection conduits from
3 said exit point through said first bore hole and out said entry point.

1 17. A method for remediating a contaminated groundwell,
2 including a subterranean body of water, comprising:
3 providing a supply of oxygen;
4 conveying oxygen from said supply of oxygen to a control
5 mechanism;
6 providing a plurality of injection conduits each having a first end
7 in communication with said control mechanism, a middle portion extending
8 below ground and terminating at an injection site in communication with the
9 body of groundwater, said injection site being located remotely in a horizontal
10 direction from said first end;
11 locating said injection sites of each of said plurality of injection
12 conduits at predetermined locations in the body of groundwater; and

13 delivering oxygen from said control mechanism to said plurality
14 of injection sites.

1 18. The method of claim 17, further comprising:
2 regulating the flow rate of oxygen injected from said control
3 mechanism to said plurality of injection conduits.

1 19. The method of claim 17, further comprising:
2 regulating the pressure of oxygen as it is conveyed to said
3 control mechanism.

1 20. The method of claim 17, further comprising:
2 providing a mechanism to monitor the levels of contaminants
3 contained in the body of groundwater before and during the remediating
4 process.

1 21. The method of claim 17, further comprising:
2 determining the location for said plurality of injection sites; and
3 boring a hole along a path where said injection sites are to be
4 located.

1 22. The method of claim 21, further comprising:
2 inserting said plurality of injection conduits into said bored hole.

1 23. The method of claim 17, further comprising:

2 boring a plurality of holes along a respective plurality of paths
3 where associated injections sites are to be located; and
4 inserting a plurality of injection conduits into each of said
5 plurality of holes.

1 24. The method of claim 23, wherein each of said plurality of
2 bore holes enter ground through the same entry hole.

1 25. The method of claim 18, further comprising:
2 monitoring the level of oxygen in the soil gas vapor; and
3 maintaining said level of oxygen in a range between about 15%
4 and 25%.